

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of November 9, 2007 is respectfully requested.

In the outstanding Office Action, the Examiner rejected independent claim 1 and several of the dependent claims as being unpatentable over the Ferrier reference in view of the Chen reference and further in view of the JP '161 reference; and rejected the remaining dependent claims as being unpatentable over the Ferrier reference, the Chen reference, the JP '161 reference and either the Stevens reference, the Yoshio reference, or the Arcilesi reference. However, independent claim 1 has now been amended as indicated above so as to clarify the substrate processing method. For the reasons discussed below, it is respectfully submitted that amended independent claim 1 and the claims that depend therefrom are clearly patentable over the prior art of record.

Independent claim 1 has now been amended to clarify the pre-plating treatment process, the rinsing treatment for removal of the pretreatment liquid, and the electroless plating process as recited in claim 1. Specifically, as illustrated in Figure 10A, during a pre-plating treatment *while sealing an outer peripheral portion of the dry substrate*, a pretreatment liquid is brought into contact with the surface of the dry substrate (see also Figure 8; page 32, line 23 through page 33, line 14; and page 33, line 27 through page 34, line 7 of the original specification). As illustrated in Figure 10B, the method further comprises removing the pretreatment liquid remaining on the surface of the substrate in a rinsing treatment *while exposing the outer peripheral portion of the substrate* (see also Figure 9; page 33, lines 14-21; and page 34, lines 8-21 of the original specification). As illustrated in Figure 10C, the method further comprises performing an electroless plating process on the surface of the substrate to selectively form an alloy film on the surface of the metal region *while exposing the outer peripheral portion of the substrate* (see page 34, lines 22-28 of the original specification).

Although applying a pretreatment liquid to remove oxidation will enhance the processing of interconnects on a substrate, the pretreatment liquid can contaminate the plating solution and the substrate during a subsequent processing step. The present invention provides the advantages of applying a pretreatment liquid onto areas of a substrate where interconnects are formed, while also minimizing the potential for contamination of a substrate and/or the plating solution.

In particular, because the outer peripheral portion of a dry substrate is sealed during pre-plating treatment, the pretreatment liquid is prevented from being applied to the outer peripheral portion of the substrate where it is not needed. Furthermore, the outer peripheral portion of the substrate is exposed during the rinsing treatment so as to remove impurities from the outer peripheral portion while also removing the pretreatment liquid from other portions of the substrate (as well as any pretreatment liquid that might have made its way onto the outer peripheral portion). As a result, during a subsequent electroless plating process while the outer peripheral portion of the substrate is again exposed, the potential for contamination of the substrate and/or the plating solution is significantly reduced (see page 33, lines 21-26 of the original specification).

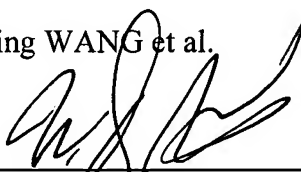
The prior art does not teach or even suggest sealing an outer peripheral portion of a dry substrate during a pre-plating treatment, and exposing the outer peripheral portion of the substrate during a rinsing treatment and an electroless plating process. In particular, the Ferrier reference teaches application of an “activator solution” to a surface, but does not teach or even suggest sealing an outer peripheral portion of the surfaces during application of the activator solution (i.e., the pretreatment liquid).

The remaining prior art references of record, including the Chen reference, the JP ‘161 reference, the Stevens reference, the Yoshio reference, and the Arcilesi reference, also do not teach or suggest performing a pre-plating treatment while sealing an outer peripheral portion of a dry substrate, and then performing a rinsing treatment and electroless plating process while exposing an outer peripheral portion of the substrate. Therefore, these references do not provide any apparent reason to modify the Ferrier reference so as to obtain the invention recited in amended independent claim 1. Accordingly, it is respectfully submitted that amended independent claim 1 and the claims that depend therefrom are clearly patentable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. However, if the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the Applicant's undersigned representative.

Respectfully submitted,

Xinming WANG et al.

By: 

W. Douglas Hahm
Registration No. 44,142
Attorney for Applicants

WDH/akl
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
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